

Spaceport News

John F. Kennedy Space Center - America's gateway to the universe

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Green touches energize Kennedy's newest facility

By Rebecca Regan
Spaceport News

Kennedy Space Center rang in 2011 with the grand opening of NASA's "greenest" facility on Jan. 20. As the new hub for fueling spacecraft on journeys to unlock the mysteries of the universe, the Propellants North Administrative and Maintenance Facility will tap into Earth's most natural resources.

"This is our start. This is setting the standard," said Kennedy's Center Director Bob Cabana. "How can you not be enthused about something that requires zero energy? It actually puts more energy out than it requires to run in a 24-hour period."

The facility qualifies for the U.S. Green Building Council's Leadership in Environmental and Energy Design, or LEED, Platinum status, which is the highest of green building certifications. That certification system is based on the use of sustainable sites, materials and resources, water and energy efficiency, indoor environmental quality and design innovation.

"While our NASA primary mission is exploration, the agency also tends to another important mission -- protecting planet Earth," said Mike Benik, the director of Center Operations at Kennedy. "This facility behind me is a sterling, or



NASA/Kim Shifflett

A traditional ribbon-cutting ceremony takes place outside Kennedy Space Center's new Propellants North Administration and Maintenance Facility on Jan. 20. From left, are Thomas Wilczek, contracting officer technical representative/project manager for NASA Construction of Facilities; Bradley O'Toole, NASA contracting officer; James Wright, deputy assistant administrator for the Office of Strategic Infrastructure at NASA Headquarters; Frank Kline, NASA Construction of Facility project manager; Bob Cabana, Kennedy's center director; Mike Benik, director of Kennedy's Center Operations; Ward Davis, president of HW Davis Construction Inc.; and Rick Ferreira, chief operating officer of Jones Edmunds and Associates Inc.

should I say platinum, example of how NASA and KSC are leading the way."

To lead the way, the new facility will become a test bed for more environmentally friendly projects at NASA centers by making sure every aspect is truly green.

"I think it's the future for us here at the Kennedy Space Center," Cabana said. "I think we're going to add more facilities like this and eventually get to where some of our old 1960s infrastructure has been updated and brought to new standards."

The test bed begins with a parking lot of the future. For less than \$1.50 a day, an electric or hybrid vehicle can plug into a nearby solar-powered charging canopy. The eight-car station was paid for by the Department of Energy's Transportation Electrification Grant Program and can be used for government or privately owned vehicles to reduce dependency on gas.

"This will hopefully give folks an incentive to buy electric cars and have a place to plug in," said Frank Kline, the facility's project manager

with NASA Construction of Facilities.

The sun's power doesn't stop there. More than 300 photovoltaic panels are expected to generate more energy than will be used at Propellants North, making it the space agency's first net-zero facility. Even the orientation of the facility maximizes sunlight, decreasing the demand for energy.

"We've had experts come in and give us kudos on how well the system is actually functioning," Kline said.

Water is a big part of the conservation effort, too. Toward the back of the facility is a 7,500-gallon rainwater harvesting system that consists of three storage tanks. Non-treated H₂O from the system will be used for the facility's toilets and irrigation system, while treated water can be used for drinking and hand washing.

While most of the facility's features are brand-new, Propellants North also is steeped in rich history.

Crawlerway rocks that were crushed during space shuttle treks to Kennedy's launch pads are used as a substitute for mulch.

In the lobby, windows and framing saved from Kennedy's Launch Control Center firing rooms

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Civil servants learn about training, leadership opportunities

By Linda Herridge
Spaceport News

Kennedy Space Center's Human Resources Development and Recognition Office hosted a training road show for NASA employees, Jan. 13, from 8 a.m. to noon, in the Operations and Checkout Building Mission Briefing Room.

About 151 NASA civil servants participated in the event and learned more about the various training and leadership opportunities offered at Kennedy, according to NASA Human Resources Specialist Joette Feeney.

More online

For more information on leadership and training opportunities, visit:
<http://ba.ksc.nasa.gov/hrdevelopment.htm>

"Many employees are unaware of the competitive and non-competitive training and leadership programs offered at all grade levels," Feeney said. "This training road show was intended to spike their interest."

NASA employees gained program information from 25 participant organi-

zations, including Federally Employed Woman, Leadership Brevard, NASA Fellowship Program, Mid-level Leader Program, the University of Central Florida's Professional Engineering Management Program and the Kennedy Graduate Fellowship Program.

A writing seminar also was offered to provide assistance on how to successfully submit an award-winning application.

Feeney said the office will take the show on the road again in the summer, this time to the Operation and Support Building II facility.



Courtesy of NASA/Margaret Truitt

A NASA employee gathers information about the Foundations of Influence, Relationships, Success and Teamwork (FIRST) leadership program during a training road show hosted by Kennedy's Human Resource Development and Recognition Office on Jan. 13. FIRST was among the 25 leadership and training organizations that participated in the event.

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are the focal point of the facility.

"To me, this is the million dollar view from this facility," Kline said. "You have the same view as you did, looking out in 1964 from the Launch Control Center, set at the same angle and orientation as in the firing rooms."

Kline and his team even insisted that the windows be left in their original state, with the salt air stains on the outside and a nicotine patina on the inside from when NASA allowed smoking in the firing rooms.

This clean, 'green' building puts emphasis on human and environmental health that is quite a contrast from the popularity of tobacco use back in the early days of the space program, and workers in Propellants North are guaranteed to reap the benefits from this uber-smart facility.

An automated light control system helps overhead LED lights and sunlight work in tandem to always give the facility's occupants peak lighting, which



NASA/Kim Shifflett

A solar-powered charging canopy is available for powering government or privately owned electric vehicles at Kennedy Space Center's new Propellants North Administration and Maintenance Facility.

is thought to enhance work place morale and increase productivity.

"We get a lot of daylight into this facility, especially the second floor," Kline said. "These adjust the power to the lights to keep a constant lighting level."

Even the air-conditioning system is pretty clever. Its efficiency comes from highly insulated roof and walls, as well as a thermostat that regulates the temperature and relative humidity up to 5 feet above the ground, which is where most people spend their time.

"This system works from the ground up. Hot air

rises, so the air conditioning here starts from the floor and goes up," Kline said. "It's kind of the opposite from what a normal facility would be, pushing cold air down."

The system requires no duct work, because the air flows underneath the facility's sustainable bamboo flooring. Vents in each work station can even be relocated for the comfort of the occupants. The system also goes a step further and monitors the CO2 levels in the building. As the number of people in the facility increases, the system will detect when more fresh air is required.

Propellants North also is using an energy-saving feature that could be added to existing Kennedy facilities in the near future. Called a controlled power station, when an occupant leaves their work area for an extended period of time, it will turn everything using electricity off except their computer. This small step could greatly reduce an existing facility's monthly power bill.

The design team's attention to detail didn't escape the restrooms, either. Hygienic hand dryers scrape water from hands in a matter of seconds, much like a power dryer at a car wash. And the showers and sinks are made to conserve as well.

"All the fixtures are high-efficiency fixtures and they're all automated," Kline said. "And they're super-low flow, so you use very little water."

While Propellants North will be working for its occupants, its occupants will need to develop a green thumb of their own to maintain the center's reuse, recycle

and repurpose efforts.

"We have bins for plastic, aluminum cans, white paper, cardboard. The whole idea is to change people's habits to not throw things away," Kline said. "We can recycle most things nowadays. So, we try to reduce what ends up in the landfill."

The construction crew had the same concept in mind throughout the year-and-a-half building phase. To date, more than 98 percent of all waste, totaling 664 tons, was diverted from landfill disposal.

Cabana credited a diverse team of designers and builders with crafting a new approach to construction and facility usage that focused on environmental impacts and benefits.

"The integration of the team has just been outstanding," Cabana said.

More info

For more facts and figures about Propellants North, go to www.nasa.gov/centers/kennedy/pdf/511264main_propellants-north.pdf

Spotlight on external fuel tank draws Facebook questions

By Steven Sicheloff
Spaceport News

Space shuttle Discovery's external fuel tank has taken on a bit of a starring role for the STS-133 mission because of the extra work needed to handle the unexpected challenges presented by the tank's stringers.

Technicians have been working on the stringers as the shuttle stands inside Kennedy Space Center's Vehicle Assembly Building. Two of the tank's 108 stringers, which are support beams that make up the corrugated intertank portion of the external tank, developed small cracks during fueling for a Nov. 5, 2010, launch attempt. Examinations performed following a fueling test revealed cracks on three other stringers.

Analysis and testing showed Space Shuttle Program managers the root cause for the problem and thin support structures called radius blocks were prescribed to cure the issue. When the tank's repairs and modifications are completed, the entire circumference of the intertank will have been strengthened. That work is slated to finish in time for the shuttle to rollout to Launch Pad 39A on Jan. 31.

The crew for the mission also changed recently after Mission Specialist Tim Kopra was injured in a bicycle accident. Veteran astronaut and spacewalker Steve Bowen will



NASA/Jack Pfaller

A technician examines reinforcing pieces of metal, known as radius blocks, before they are installed to stringers on space shuttle Discovery's external fuel tank Jan. 13. After the modifications to the stringers are complete, foam insulation will be re-applied.

NASA's Kennedy Space Center

Got a question about the external fuel tank? Are you curious about the repairs or is there something else you've always wanted to know about the tank? Ask here and we will pick the top 5 questions to be answered in depth by Aly Mendoza, NASA's External Tank and Solid Rocket Booster vehicle manager.

January 14 at 12:13pm · Like · Comment

84 people like this.

Meg Cooper Naab How much weight do the repairs add to the tank?
January 14 at 12:19pm · Like · Flag

Mack A. Bradley I have an SRB question. Have the SRBs ever failed? What would happen if they did? -G, age 9.
January 14 at 12:19pm · Like · Flag

Karl Holter I know it is early in the planning, but how will the tank for the heavy lift vehicle be different than the tanks that were built for the shuttle?
January 14 at 12:20pm · Like · Flag

John Thro How does NASA know that previous ET's didn't have the same problems as ET-137, and were flown with no problems?
January 14 at 12:21pm · Like · 1 person · Flag

Jeff Goldman Are there any videos of the tank splashing down and being recovered, I would love to see that. I've seen the videos of the solid rocket boosters, just not of the EFT.
January 14 at 12:21pm · Like · 1 person · Flag

John McGauley You're making unprecedented changes to the intertank. How do you model or simulate the results to prevent unintended consequences?
January 14 at 12:22pm · Like · 1 person · Flag

Tim Tjoelker If the E.T. is causing so many problems, then why not use a back-up E.T..
January 14 at 12:25pm · Like · 2 people · Flag

Kennedy Space Center asked for public inquiries regarding repairs to space shuttle Discovery's external fuel tank via its social networking site, Facebook. To read more, go to www.facebook.com/NASAKennedy.

take Kopra's place on the mission to the International Space Station. Bowen last flew on STS-132 in May 2010, which means he will become the first astronaut ever to fly consecutive missions into space.

In considering the challenges posed by the stringers after a few cracks were discovered, NASA fans and the general public found an appetite for more information about the largest single component of a space shuttle "stack."

As part of NASA's continuing social media interaction, Facebook users were given the chance to ask Kennedy's external tank expert about the modifications and the one-of-a-kind role the tank plays. Kennedy's Facebook page has drawn about 60,000 friends, with some 130,000 following the center on Twitter.

Alicia Mendoza is NASA's External Tank and Solid Rocket Booster vehicle manager at Kennedy and in between preparing the tank for Discovery's targeted launch on Feb. 24, she discussed some of the things that went into designing the tank,

why it looks the way it does and why it is not recovered for re-use the way the rest of the stack is.

To save time, the two dozen questions posted to Kennedy's Facebook page were trimmed to six that covered the broadest areas. First, a few basics about the tank:

At 15 stories tall and sporting an outer shell of dark orange insulation but with no engines of its own, the tank serves the shuttle's three main engines. It is actually two tanks on top of each other, with a support ring -- including the stringers -- holding them together. The tank holds about 535,000 gallons of liquid hydrogen and liquid oxygen. Both propellants are cryogenic, which means they are super-cold. The oxygen is chilled and pressurized to minus 297 degrees F in its liquid form and the liquid hydrogen buries the temperature needle to minus 423 degrees F.

A gallon of liquid oxygen weighs about 8.5 pounds while the hydrogen is much lighter, even in liquid form, at about half a pound per gallon. But even though the chemi-

cals may not sound heavy by the gallon, the three main engines use so much propellant that carrying it all into orbit would make an impractically large and heavy orbiter.

Therefore, NASA designed the tank to be jettisoned just as the shuttle makes it into orbit. The tank descends through the atmosphere where some of it burns up and the rest crumples and falls harmlessly into Indian Ocean.

And now, the questions and Mendoza's answers:

QUESTION: You're making unprecedented changes to the intertank. How do you model or simulate the results to prevent unintended consequences?

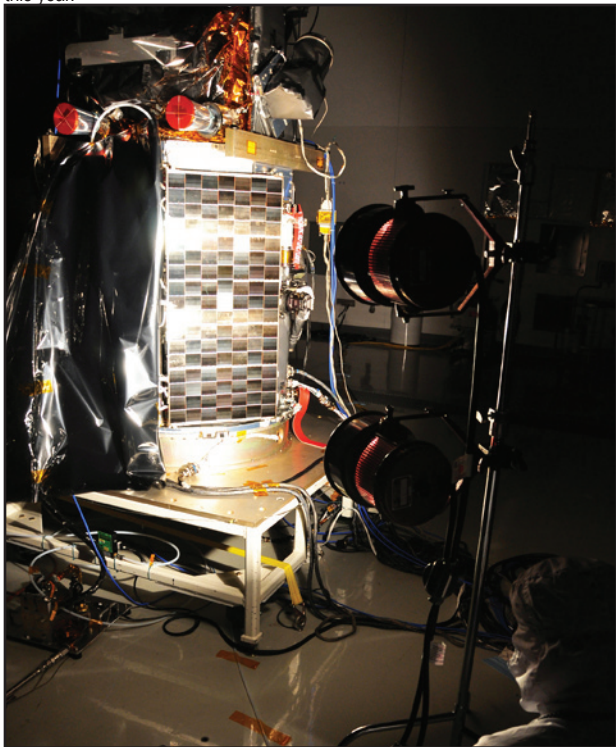
ANSWER: On ET-137 (the external tank for Discovery), we are performing a stringer reinforcement modification. This mod consists of installing aluminum reinforcement strips called 'radius blocks' on selected stringers. Radius block enhancement is a routine approved

Scenes Around Kennedy Space Center



NASA/Frankie Martin

In accordance with a Presidential Proclamation, the American Flag in the Launch Complex 39 area flies at half-staff Jan. 13 to honor U.S. Rep. Gabrielle Giffords and others who were wounded or killed during a shooting spree in Tucson, Ariz., on Jan. 8. Giffords is the wife of NASA astronaut Mark Kelly, who is scheduled to command space shuttle Endeavour's last mission, STS-134, to the International Space Station later this year.



NASA/Randy Beaudoin, VAFB

The solar array on NASA's Glory spacecraft illuminates inside the Astrotech payload processing facility at Vandenberg Air Force Base in California on Jan. 20. Next, the spacecraft will be encapsulated in its protective payload fairing before it is transported to Space Launch Complex 576-E and joined with the Taurus XL rocket's third stage. Once Glory reaches orbit, it will collect data on the properties of aerosols and black carbon. It also will help scientists understand how the sun's irradiance affects Earth's climate.



NASA/Kim Shiflett

Mechanisms/Orbiter Handling Engineer Rob Lantz, left, and United Space Alliance Remote Manipulator System Engineer Paul Hofmeister, rehearse procedures for the liftoff of space shuttle Discovery's final mission with other STS-133 launch team members in Firing Room 4 of the Launch Control Center on Jan. 7.



NASA/Jack Pfaller

A worker monitors space shuttle Endeavour's external fuel tank, ET-122, for the STS-134 mission as it is lifted from its test cell in the Vehicle Assembly Building on Jan. 19. When lowered in place, the tank will be attached to the solid rocket boosters on the mobile launcher platform. Targeted to launch April 19, STS-134 will deliver the Alpha Magnetic Spectrometer-2 (AMS) to the International Space Station.



NASA/Frankie Martin

A great white egret is perched in some brush just north of the Shuttle Landing Facility at Kennedy Space Center on Jan. 6.



NASA/Sandra Joseph

Maggie Starke-Forbes, right, celebrates her retirement from NASA in the Kennedy Learning Institute on Jan. 14 with Susan Kroskey. Starke-Forbes is leaving Kennedy's Environmental Management Branch and has worked for the federal government for 36 years.



NASA/Jim Grossmann

Eight aerospace engineering students from the Massachusetts Institute of Technology visit Kennedy Space Center Press Site TV Auditorium on Jan 18 during a three-week internship which ends Friday, Jan. 28. The group was introduced to the operational aspects of spaceflight and the relationship between design and operations -- how design decisions from previous years influence maintenance requirements today.



NASA/Frankie Martin

Two gators sunbath just north of the Shuttle Landing Facility on Jan. 6. Kennedy coexists with the Merritt Island National Wildlife Refuge, habitat to more than 310 species of birds, 25 mammals, 117 fish and 65 amphibians and reptiles.

Refuge to host second annual Florida Scrub Jay Festival

By Linda Herridge
Spaceport News

Did you know that the presence of scrub jays is an indicator of the health of scrub habitat? And that they and other species of plants and animals, such as indigo snakes and gopher tortoises, are dependent on this ecosystem? To educate the public about the scrub jay, the only native species of bird unique to Florida, the Merritt Island National Wildlife Refuge (MINWR) will host the second annual Florida Scrub Jay Festival, Feb. 12, at the refuge's Visitor Center and Sandler Education Pavilion.

This free family event will be from 9:30 a.m. to 3:30 p.m., and will feature live music, guided nature



Photo courtesy of Tom Dunkerton

A Florida scrub jay defends its home in the Merritt Island National Wildlife Refuge at Kennedy Space Center. Scrub jays and other wildlife may be viewed during a field tour of the refuge during the second annual Florida Scrub Jay Festival on Feb. 12.

walks, animal displays, children's crafts and games, environmental exhibits, face painting and educational presentations.

According to MINWR Public Use Ranger Nancy Corona, the purpose of

the festival is to provide educational opportunities, promote conservation and increase awareness of scrub habitat and the Florida scrub jay.

"Scrub jays are a threatened species that are found

only in Florida," Corona said. "They can only survive in scrub habitat. Public support for the conservation and protection of scrub habitat and the use of prescribed fire to maintain a healthy environment is critical for scrub jay survival."

The MINWR encompasses 140,000 acres at Kennedy Space Center and is home to more species listed as threatened or endangered than any other refuge in the world. Among them are about 310 species of birds, including the Florida scrub jay.

Kennedy's Ecological Program contractor, Innovative Health Applications (IHA), will conduct seminars and field tours during the festival. According to IHA Lead Wildlife Biologist Dr. Dave Breininger, semi-

nars will cover population biology, fire ecology and habitat requirements.

"The field tours will be conducted in the Happy Creek Scrub Management Area of the refuge," Breininger said. "Participants will observe scrub jays that are uniquely color-banded and easy to observe, and learn about the scrub habitat."

IHA leads other ecological programs for Kennedy, including vegetation studies, aquatic biology, capture-recapture wildlife studies, and endangered species population risk assessments.

The festival is supported by the education committee of the Northeast Florida Scrub Working Group. The group hosts these festivals in a different area of Florida each year.

From Q & A, Page 3

production repair method used during intertank assembly at the manufacturing plant, but not normally implemented at KSC. We performed an instrumented tanking test prior to the mod. Data from this test was used to validate existing engineering analysis models. Engineering tests have also determined that the mod increases the capabilities of the stringers and the design change does not affect the structural stiffness or integrated loads, while increasing margins of safety.

Q: The ET is being worked on while the SRBs (solid rocket boosters) are attached to the stack. Could you describe some of the safety procedures used while working in such close proximity to these fueled motors?

A: Working on the ET while attached to the SRBs is standard operations at KSC. The tank spends most of its processing time at KSC attached to the SRBs. It is considered a hazardous environment that requires specially certified personnel. Typical safety precautions include grounding, electromagnetic interference restrictions, and specially de-



NASA/Kim Shiffett

Repair work to space shuttle Discovery's external fuel tank continues in the Vehicle Assembly Building on Jan. 18. Technicians are modifying 94 support beams, called stringers, on the tank's intertank region by fitting pieces of metal, called radius blocks, over the stringers' edges.

signed equipment that meet National Electric Code standards for hazardous and explosive environments.

Q: How can we make these external tanks reusable?

A: At 500 seconds after liftoff, the ET separates from the orbiter and plunges through the atmosphere and breaks apart as it falls into the ocean. A redesign to increase its structural ability to survive the 52-mile plunge would increase the weight beyond the shuttle's capability to launch. In

addition, the tank would need to be transported from the Indian Ocean to New Orleans, La.

Q: Why not just replace the tank instead of fixing it?

A: There are no additional tanks in production. The three tanks at KSC are suspect until the investigation is complete.

Q: What's the material used for it and why?

A: The tank is manufactured using mainly lightweight aluminum

alloys for weight reduction so that we maximize payload capability of the shuttle.

Q: Are the liquid oxygen and liquid hydrogen filled at the same time during tanking? And why do we need slow and fast fill? If liquid hydrogen is continuously coming out (I think that's why the pre-burn before SSME ignition) how do you maintain the pressure inside the liquid hydrogen tank?

A: Yes, the liquid oxygen and liquid hydrogen tanking process begin simultaneously. The process begins by chilling the transfer lines and main engines. Both commodities begin with slow fill to avoid thermal shocking of the aft domes. We then transition to fast fill up to about 98 percent capacity. We slow back down at this point to avoid overfilling. Once filled, we move into a stable replenish flow rate to maintain proper propellant levels and conditioning. Regarding the liquid hydrogen tank, we use helium to pressurize the tank for flight. The pre-burn you mention is actually for the liquid oxygen exhaust at the space shuttle main engines (SSMEs).

Remembering Our Heritage

Chimp helps 'human-rate' Mercury capsule, Redstone rocket

By Kay Grinter
Reference Librarian

A dress rehearsal precedes every good performance, and NASA's first human space-flight was no exception. Fifty years ago, the chimpanzee Ham was chosen as the stand-in for America's first person in space, Alan Shepard.

The chimpanzee, having the same organ placement and internal suspension as a human, was chosen to perform a lever-pulling chore throughout the mission to test the life-support systems and demonstrate that a simple task could be performed during launch, weightlessness and re-entry.

The precursor mission to the first crewed flight was designated Mercury-Redstone 2 (MR-2).

Four female and two male chimps were selected and trained by the medical specialists and animal handlers of the Aeromedical Field Laboratory's Space Biology Branch at Holloman Air Force Base in Alamogordo, N.M.

This unique "astro-chimp" corps moved into accommodations behind Hangar S on Cape Canaveral Air Force Station, where the astronaut quarters were located, on Jan. 2, 1961. There, they were separated into two groups as a precaution against the spread of any contagious diseases among the whole colony. Mercury capsule mock-ups were installed in each of the compounds.

The chimps worked daily at their psychomotor performance tasks inside the mock-ups. To condition them to respond properly, banana pellets were given as rewards and mild electrical shocks as punishment.

Three lights with cor-



NASA file/1961

The chimpanzee Ham, also known as primate No. 65, and a technician go over the equipment for Ham's approaching suborbital flight in Cape Canaveral Air Force Station's Hangar S in 1961. Monkeys had been flown into space before, but Ham was the first higher primate to test a spacecraft.

responding levers were mounted above the chimp's couch. The first was a red "continuous avoidance" signal and glowed all the time. The second, a white light, came on when the lever below it was pushed every 20 seconds. A third blue light glowed for five seconds at irregular intervals every two minutes. The chimp was required to push the lever before the light went out.

By the third week in January, each of the six chimps appeared bored but were well-fed experts at lever-pulling.

All six chimps were accorded equal treatment until the day before flight -- Jan. 31 -- when the stand-in and his backup were chosen.

Each was given a physical examination, and then rated based on data received from sensors, a psychomotor designed to test reflexes, and responses to the lights and levers

mounted on the consoles.

The competition was stiff, but one of the males was exceptionally frisky and in good humor. Thus, "Ham," as he was called, became the stand-in for America's first human in space. At this time, NASA had not announced which of the seven Mercury astronauts were being considered for this honor.

The name "Ham" is traditionally reported to be an acronym for the facility at which the chimp was trained. However, the name also honored the commander of the laboratory, Lt. Col. Hamilton Blackshear, who lived in Satellite Beach, south of Kennedy Space Center, after his retirement.

"We had 65 chimps, all of them named after people who worked there," Blackshear was quoted as saying in 1980. "The commander was Rufus Hessberg, and one of them was named Rufe."

Blackshear further explained: "About a week after I got there, I found there was one named Ham. I asked a young airman, 'How did you come to name him Ham?' He said, 'Oh, that's Holloman Aero Med, sir!' It was quick thinking. They had their flanks covered in case I objected -- which I didn't."

The audience in the Mercury Control Center was large for this dress rehearsal with some 500 people from NASA, the military services and contractors on station.

Ham, dressed in a diaper and rubber pants under his miniature space suit, entered the capsule at 7:53 a.m. After a series of minor problems, the Redstone rocket lifted off at 11:55, just before the launch window was scheduled to close at noon.

Problems after launch caused the capsule to splash down 422 miles down range after 16.5 minutes,

132 miles further and 2.25 minutes longer than planned.

Ham performed and fared well, having done his part to "human-rate" the Mercury capsule and the Redstone rocket and paving the way for Shepard's 15-minute, history-making flight on May 5.

After the mission, Ham lived in the National Zoo in Washington, D.C., and the North Carolina Zoo before he died at age of 26 on Jan. 19, 1983.

More online

Additional information on the flights of Ham and Alan Shepard is available in "This New Ocean: A History of Project Mercury," NASA SP-4201, available online at www.hq.nasa.gov/office/pao/History/SP-4201/toc.htm.

Did you take part in NASA's Mercury Program?

People who worked in NASA's Mercury Program and during the early years of the space program are encouraged to indicate their interest in attending a 50th anniversary celebration by calling 321-867-1000 or writing to Alan Shepard 50th Anniversary, c/o Jane Mosconi, Mail Code EX-P, NASA, Kennedy Space Center, FL 32899. Include your name, address, phone number, e-mail address and role you played in the program. If the phone number indicates it is full, call back later. The mailbox only accepts 30 messages at a time.

NASA seeks volunteers for mentors, colleagues

NASA's External Relations Education Programs and University Research Division seeks volunteers to share their expertise as mentors/colleagues for undergraduate students, graduate students and postdoctoral scholars for the summer 2011 session. The deadline for submission of opportunities is Feb. 15. Go to <http://intern.nasa.gov> to create a mentor profile and an opportunity for students. For more information, contact Benita Desuza by e-mail at KSC-Education-Office@mail.nasa.gov or call 321-867-3671.

'Catch an Environmentalist' awards handed out

This award celebrates individuals and teams that have made significant contributions to environmental stewardship at Kennedy Space Center. The award recognizes efforts in waste reduction, historical/archeological preservation, energy and water conservation, use of sustainable products, sustainable construction and operations, and environmental outreach.

The following recipients were recognized in the last quarter of 2010:

- **Eugene Haught** for his work with the Wastewater Ammonium Perchlorate Remediation System at Hangar AF, Cape Canaveral Air Force Station.
- **Dr. Kathleen Loftin and her team** for the Novel Analytical Technique for the Detection of Low Level Organic Contaminants.
- **Gerald L. Pless** for his work throughout the years with United Space Alliance's textile wiper recycling program.
- **Shannah Trout** for her proactive work in the NASA Mission Control Center historic preservation efforts.

If you "Catch an Environmentalist" and would like to nominate them for this award contact Annie Williams at 321-867-8720 or by e-mail at ann.t.williams@nasa.gov.

Looking up and ahead . . .

Feb. 23	Launch/VAFB: Taurus, Glory; 5:09:43 a.m. EST
Targeted for Feb. 24	Launch/KSC: Discovery, STS-133; 4:50 p.m. EST
No Earlier Than March 4	Launch/CCAFS: Atlas V, OTV 2; TBD
No Earlier Than March 11	Launch/CCAFS: Delta IV, NROL-27; TBD
Targeted for April 19	Launch/KSC: Endeavour, STS-134; 7:48 p.m. EDT
No Earlier Than April 30	Launch/CCAFS: Atlas V, SBIRS GEO-1; TBD
No Earlier Than June 23	Launch/CCAFS: Atlas V, GPS IIF-2; TBD
No Earlier Than June 9	Launch/VAFB: Delta II, Aquarius / SAC-D Satellite; TBD
Targeted for June 28	Launch/KSC: Atlantis, STS-135; 3:48 p.m. EDT
No Earlier Than July 15	Launch/CCAFS: SpaceX Falcon 9, Dragon C2; TBD

WORD ON THE STREET

The Propellants North Administrative and Maintenance Facility incorporates recycled firing room windows and framing from Kennedy Space Center's Launch Control Center. If you could incorporate any piece of space history into your house, what would it be?



"A lunar lander as a backyard playground for my daughter, Macey. She's 8 years old and would probably think it's the coolest thing ever."

AJ Neal,
with Millennium Engineering and Integration Co.

"I would incorporate an energy-efficient toilet into my house to help the environment."

Renee Vessels,
with NASA



"Any piece of hardware that was recovered from Columbia, because that means a lot to everyone."

Henry Bursian,
with NASA

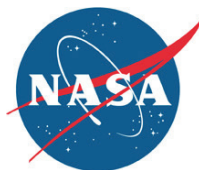
"One of the launch pads for my 5-year-old daughter to use as a jungle gym."

Maureen Sides,
with Yang Enterprises



"The countdown clock. I could put it in my front yard and count down to my retirement."

Denise Coleman,
with NASA



John F. Kennedy Space Center

Spaceport News

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